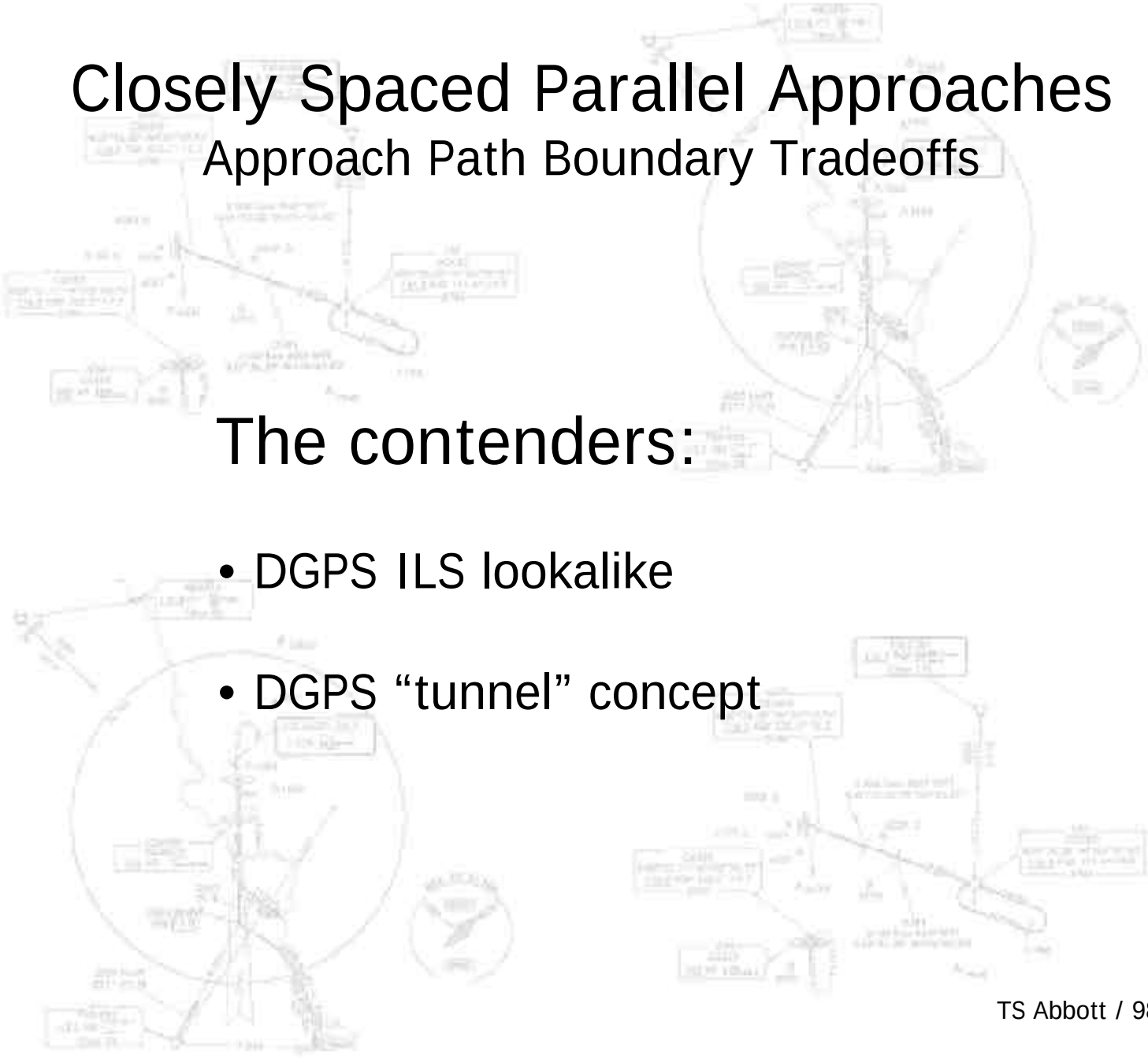
Closely Spaced Parallel Approaches

Approach Path Boundary Tradeoffs



The contenders:

- DGPS ILS lookalike
- DGPS “tunnel” concept

Closely Spaced Parallel Approaches

DGPS ILS lookalike

Concept proposal: The “primary” runway would have no skew while the secondary runway would be rotated such that the adjacent edges are parallel with the primary runway’s approach. Assuming that the “primary” runway was the existing instrument runway, this would minimize changes for this approach. Also, this would minimize the impact on Cat II & III operations, assuming that the primary runway was so capable. This also assumes that the Cat II & III capacity issue is not relevant to CSPA.

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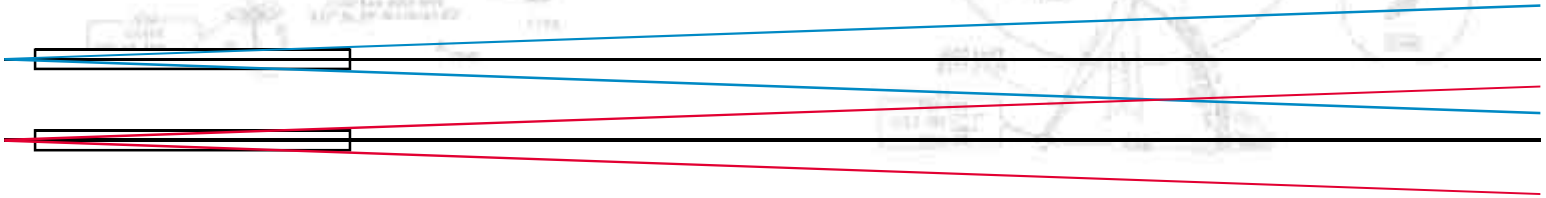
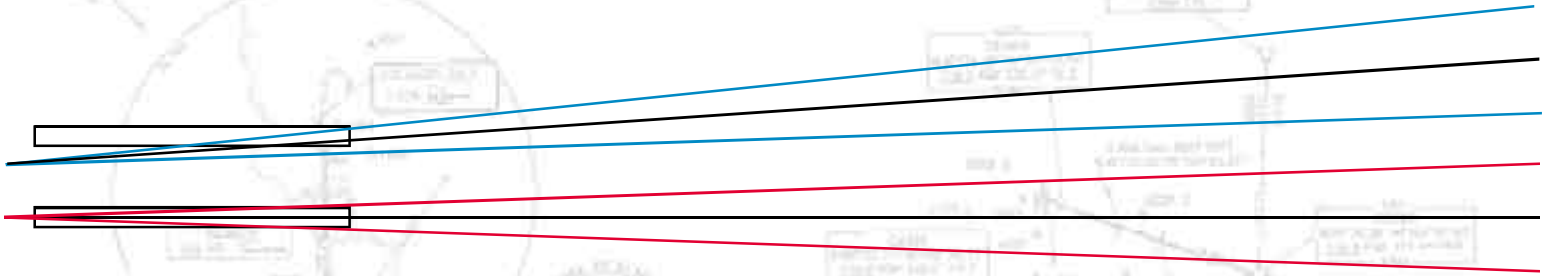
DGPS ILS lookalike

Because of the boundary overlap problem,



we may need to skew one of the “localizers” ~4º.



Closely Spaced Parallel Approaches

DGPS ILS lookalike

Disadvantages:

- one approach is not perfectly straight-in (although it is still a straight-in approach).
- potential community noise considerations for the skewed approach.

Advantages:

- can use existing MMR technology.
- no autopilot / flight director issues.
- reduced ATC workload during marginal VFR operations.

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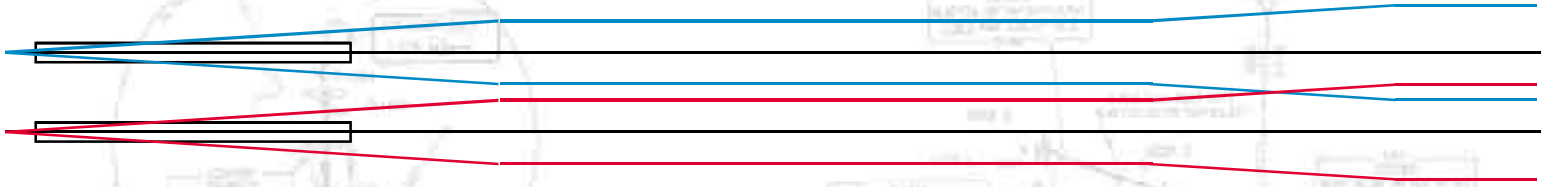
DGPS “tunnel” concept

Concept proposal: The approach path to each runway would have path boundaries that are parallel to each other. Altitude separation would accommodate path boundary overlap during path capture.



Closely Spaced Parallel Approaches

DGPS “tunnel” concept

Disadvantages:

- can not use existing MMR / ILS lookalike technology.
- may have significant autopilot / flight director certification issues.
- requires ATC dependant-operations for non-CSPA participants during marginal VFR operations.

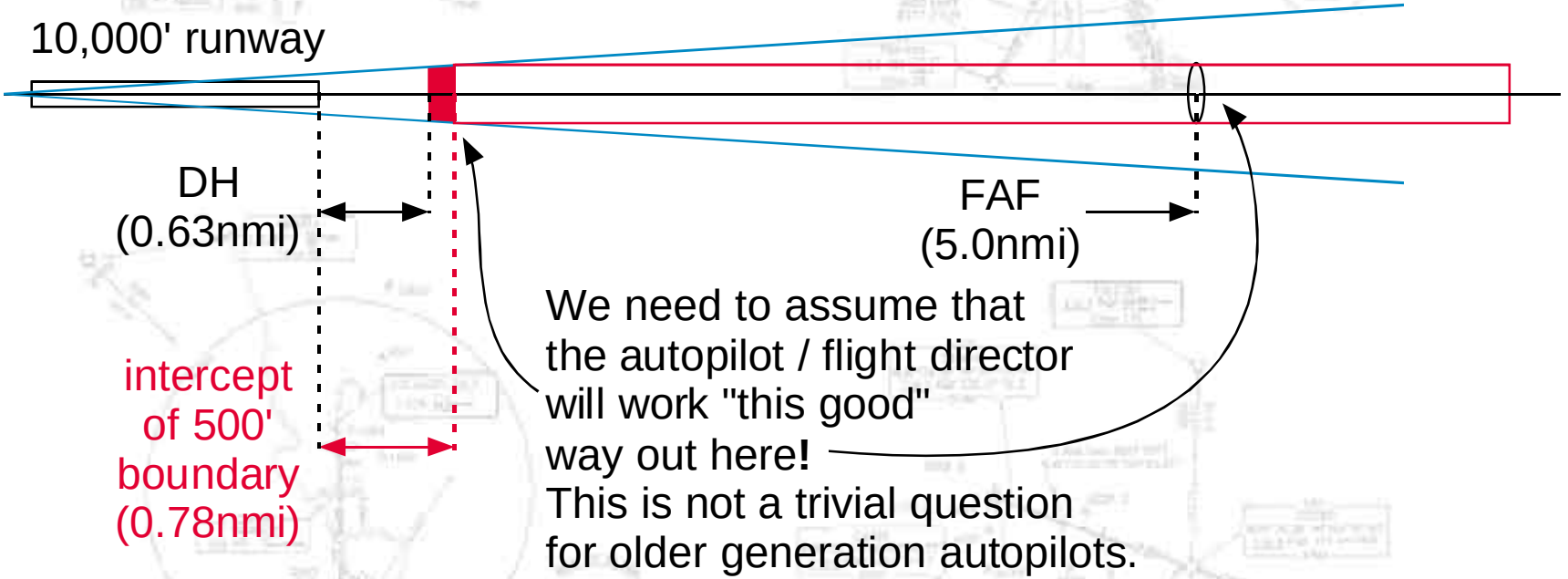
Advantages:

- both approaches are “perfectly” straight-in.
- compatible with existing visual approach operations at existing runway pairs.

Closely Spaced Parallel Approaches

DGPS “tunnel” concept

"generic" ILS configuration with ±500' lateral path boundary overlay
(for clarity, lateral scaling is 2x longitudinal scaling)



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There are significant operational and equipage cost issues with both of these concepts. Cost / benefit tradeoff decisions will only be meaningful when all of the real-world impacts are considered.

Note also that increasing system requirements and operational complexity (e.g., FMS transitions to the final approach course) will only heighten our likelihood for failure in advocating and fielding CSPA concepts.